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ABSTRACT

Bintang Anda (Your Star) is not a single game, but is rather a format for a family of simulation games which was developed in 1975 when the Indonesian Ministry of Education and Culture began a search for innovations in educational technology that could be applied to problems of rural development. Indonesia's development goals emphasize improvement of the quality of life through development of its human resources, yet there is lack of staff, materials, and training to carry out these goals. Bintang Anda is a simple board game played by 10-15 people using a die, a pictoral game board, simple messages, and draw cards. The game incorporates real life situations along with relevant content information concerning important aspects of daily life (health, sanitation, nutrition, etc.). The educational purposes of the game include assisting villagers to critically analyze their current situation, raising community awareness of development potential and problems, promoting peer learning, and transferring needed content information to the community. Bintang Anda was developed and used in the District of Malang, East Java, and caught on rapidly. In many cases results could be seen in behavioral changes; awareness and attitudinal improvements were also noted. An example of a Bintang Anda game is provided. (BRR)

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TECHNICAL NOTE NO. 18

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BINTANG ANDA: A GAME PROCESS FOR COMMUNITY DEVELOPMENT

NOTE WRITTEN BY: SALEH MARZUKI and RUSS DILTS

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SUMMARY: This note describes a community development approach based upon the use of simulation games. The games themselves are developed at the community level and are supported by an integrated program including needs assessment, facilitator training, and resource mobilization. The note contains sample games, training outlines, and general guidelines for game development and utilization.

TECHNICAL NOTES

This note is part of a series of Technical Notes based on the experience of staff members working with PENMAS, the Directorate of Community Education of the Ministry of Education in Indonesia, and with The Center for International Education at the University of Massachusetts. The two organizations have been working together on a project financed by the government of Indonesia, in part with a loan from the World Bank.

Each note focuses on a particular learning material, training technique, or issue which grew out of the experience of developing a large-scale, national nonformal education program in Indonesia. The notes contain whatever information was available at the time of writing. They present a summary of experience in the hopes that it will be of value to others struggling with similar problems in different settings. The notes represent work in progress and are not intended in any way to be evaluations, although care is taken to present whatever evaluation information is available on the effectiveness of the particular method being discussed. They are intended to be self-contained so that practitioners can immediately adapt them to use in their own settings.

As in all such projects, many people contribute directly and indirectly to the development of methods. The notes attempt to accurately credit those most directly involved, but invariably there are contributors who go unrecognized, particularly in a project which encourages participation at all levels. Throughout the five year period of collaboration there has been a pattern of extensive bi-national effort.

We encourage readers to share with us their reactions and particularly relevant similar experiences which they may have had in other settings. The notes are available in English from The Center for International Education, and will also be available in Bahasa Indonesian from both the Center and from PENMAS. Notes will be issued periodically as experience produces approaches which we feel would be of interest to other practitioners.

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INTRODUCTION

Summary

This technical note describes the development and utilization of simulation games as a programmatic approach to community development. Bintang Anda is not a single game, but rather a format for a family of games having the same basic structure but covering a variety of content areas. Similarly, the games themselves are a flexible part of a broader community development effort including needs assessment, training, and follow-up activities. A major goal of the Bintang Anda simulation games program is to build community participation in development through discussion, dialogue, analysis, and awareness generated by the game process.

Background

The Government of Indonesia's development goals emphasize the improvement of the quality of life through the development of its human resources. In this context, development is not just the improvement of physical infrastructure, but basic changes in values, skills, attitudes, and structures affecting the lives of the Indonesian people.

The Government of Indonesia has made a political and philosophical commitment to development strategies, programs, and methods that will enable villagers to actively participate in all phases of development. "Swadaya", a concept embodying the activation of indigenous energies, skills, initiative, and knowledge toward the solution of development problems, has become the key element of development policy. Emphasis on "Swadaya" means that villagers must be able to assess their own needs and situations, analyze their problems, make decisions, and mobilize resources for the solution of problems. The role of the Government in this concept of development becomes one of facilitation and support. It is tacitly admitted that scarce resources are not sufficient for a successful

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The Bintang Anda game is the product of the efforts of a great many people. The initial idea arose out of a PENMAS/CIE workshop run in 1975. The game was further developed and refined by the Simulation Games Team of the IKIP Malang and by BP3K, the office of Educational and Cultural Research and Development of the Ministry of Education and Culture with the full support of the Head and staff of the Malang District Government.

'top-down' strategy. Departmental fieldworkers must be able to facilitate dialogue and discussion for awareness building, analysis of problems, and planning for change. They must be able to support village activities by catalyzing the resources, information, and skills needed by the community.

The simulation game Bintang Anda was developed and used in the District of Malang, East Java. This district has a population of around 2.5 million people living within some 411 villages of around 5000 persons each. Some 34% of the population is illiterate, the remainder having at least some formal schooling and reading ability. Within this District there have been many programs aimed at helping the poor rural population in such areas as health, nutrition, agriculture, sanitation, water supply, family planning and skills training. These programs all share common problems:

- Lack of Staff: Many programs lack field staff. One, for instance, has only 29 paid fieldworkers for the entire district;
- Lack of Materials: In education, for example, development, production and dissemination of materials is far outstripped by population growth;
- Lack of Training: Fieldworkers are not equipped with the skills necessary to approach communities effectively, nor with the techniques to implement supposedly 'participatory' programs.

Problems Addressed

The foregoing situations have led to a problem syndrome. Extension workers visit the village infrequently due to their workload. When in the village these fieldworkers provide information on many topics and technologies that are new to villagers; but due to lack of time, materials, and training the information is usually presented in the form of lectures. The end result is that villagers are expected to enact new programs, activities, and behaviours whose goals and purposes remain unclear. They are instructed to act before they understand.

Viewed from a village perspective, the situation yields yet another set of problems. Programs initiated by fieldworkers often do not address the most pressing felt needs of individuals and communities. Although new information is much needed in the villages, the style of presentation is unhelpful for illiterate and semi-literate villagers. Being told to participate in programs whose goals seem abstract and distant is seen as a drain on time and energies. In sum, villagers are not motivated to participate in community development efforts since they cannot see the connection between these efforts and the pressing problems they confront in day to day life.

There is a need to utilize approaches, methods, and materials that are geared to the improvement of the quality of life in village communities. Programs must increase awareness and understanding of day to day problems and assist communities and individuals to analyze, plan, and mobilize resources to solve these problems. One technique for doing this is the use of simulation games such as Bintang Anda.

Game Functions

Bintang Anda, meaning 'Your Star', refers to attaining an understanding of those things and situations which are under your control and which are within your power to change and those which are not. The game and its accompanying program processes are an alternative designed to serve several functions including:

- Addressing immediate community felt needs;
- Building capabilities within the community itself so that it can determine its own priorities and pace of development;
- Making effective use of scarce resources;
- Increasing understanding and awareness of problems;
- Offering new knowledge and learning in a form which is both motivational and entertaining.

This booklet describes the Bintang Anda program. It is hoped that it will be useful to development practitioners in the design and implementation of their own programs.

THE GAME

The game Bintang Anda is in essence a simple board game played by 10-15 people using a die, a pictoral game board, simple messages, and draw cards. The game incorporates real life situations faced by the community members along with relevant content information concerning important aspects of daily life (i.e. health, sanitation, nutrition, etc.).

The objectives of the game are derived from the everyday situations, needs, and concerns of the community. The educational purposes of the game include:

- Assisting villagers to critically analyze their current situation;
- Raising community awareness of development potential and problems;
- Promoting peer learning through cooperation, discussion, and group problem solving by participants;
- Transferring needed content information to the community.

The game process is led by a trained facilitator. The game is very simple to play with the main focus of the activity being the discussion generated by questions, situations, and role plays. To a great extent, the success of the game depends on the skills of the facilitator at generating good discussion, the content area knowledge brought to the game by players, facilitator, or resource persons, and the experience of the group in playing, discussion, and problem solving.

A wide variety of games were developed in the Malang program using different boards and covering different content areas including the following examples.

Bintang Anda Game Example I:

HEALTHY WATER SUPPLY

Game Objective: After playing the game participants will be able to describe the important aspects of a healthy water supply and understand why clean water is necessary to community health. Participants will also learn about how to provide and maintain a healthy water supply.

Participants: 10-15, including 3 role players (Village Head, Sanitarian, and Sub-District Head), and 5-6 players. Others present, including resource persons, serve as observers or referees who can be included in game discussions at any time.

Materials: Playing board (approximately 60 x 80 cm.), message cards, die or number cards for turn determination.

Procedure:

1. Determine the players and their pieces;
2. Assign persons to role play Village Head, Sanitarian/Doctor, and Sub-District Head;
3. Players take turns rolling the die and advance around the board the number of steps indicated;
4. When a player's piece stops at a box containing either a message or an event description, the player reads aloud what the box contains. The player facilitates discussion and invites opinions of role players, other players, or audience;
5. If a player's piece lands on a Bintang Anda box, the player draws one of the Bintang Anda cards and reads what is on the back of the card. The player facilitates discussion and gets the opinions of role players and observers. If another player lands on the same box, he also draws a

different Bintang Anda card for discussion. (Literates in the playing group may do the reading for illiterate participants.)

6. The game continues until either:

   --one player completes the board;

   --all players complete the board;

   --consensus is reached that the game is over.

7. If time permits, important points that came up during the game are pursued through further discussion;

8. Time: 1-2 hours or as time permits.

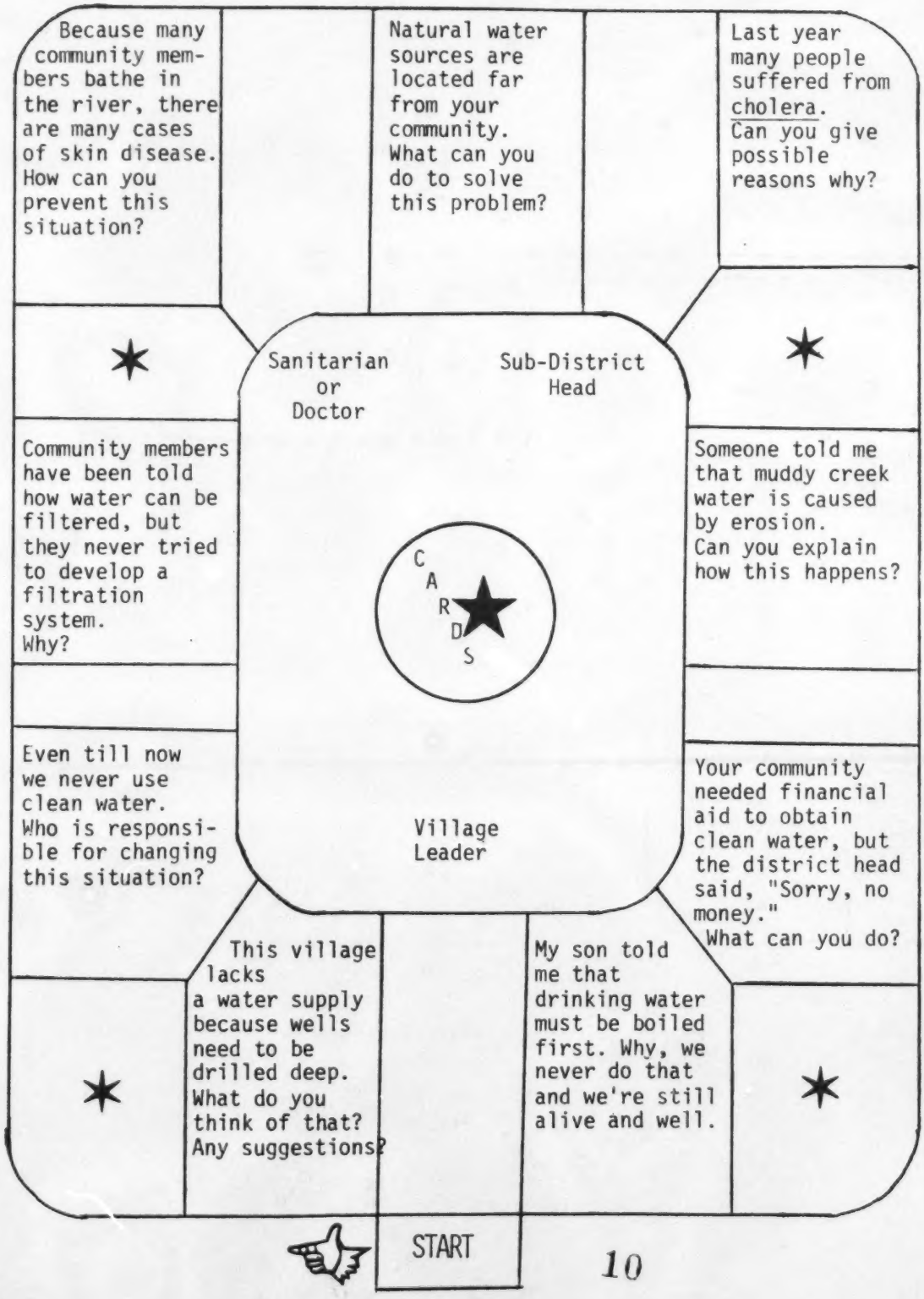
Messages on Bintang Anda Cards: Healthy Water Supply Game

1. Can you explain what cholera is? What is the relationship between cholera and dirty water?
2. Extension efforts to improve the water supply have been made, but with poor results. Why?
3. Why are vaccination programs necessary in the village?
4. The community has approached the informal leaders to help solve the water supply problem, but with poor results. Why? What can be done to influence them to assist?
5. We have made efforts to improve the health of our water supply, but the problem still remains. Why? What else can we do?
6. Many village leaders have been trained to install water filtration systems, but with no results. Why? Ask the Village Head.
7. Have you tried to analyze your community efforts to improve the water supply? Why have they failed?
8. Do you know how to create a water filtration system? If not, who do you ask about such things? How do you approach him?
9. The building of latrines has been suggested, but nothing has happened. Why?
10. The community still disposes of trash wherever it pleases. What do you think of this? Why? What can be done?
11. The educational level of the community is low, with much illiteracy. How do you feel if you are illiterate? What needs to be done to improve the situation? Does illiteracy affect community health? Why?
12. Do you have any ideas on how to motivate people to participate in programs to improve the water supply?
13. Information and vaccination campaigns have been implemented, but the results have not been good. Why?
14. Your child is sick. Someone told you that it was because of a hidden creature bothering him inside. Do you believe this?
15. Your child is sick. Someone told you it was because he bathed everyday in the river. Can this be true? What relationship could there be between bathing in the river and sickness?

BINTANG ANDA GAME

for

HEALTHY WATER SUPPLY


Because many community members bathe in the river, there are many cases of skin disease. How can you prevent this situation?
Natural water sources are located far from your community. What can you do to solve this problem?
Last year many people suffered from cholera. Can you give possible reasons why?
Sanitarian or Doctor
Sub-District Head
C A R D S
Community members have been told how water can be filtered, but they never tried to develop a filtration system. Why?
Someone told me that muddy creek water is caused by erosion. Can you explain how this happens?
Even till now we never use clean water. Who is responsible for changing this situation?
Village Leader
Your community needed financial aid to obtain clean water, but the district head said, "Sorry, no money." What can you do?
This village lacks a water supply because wells need to be drilled deep. What do you think of that? Any suggestions?
My son told me that drinking water must be boiled first. Why, we never do that and we're still alive and well.
START

Discussion

Example I illustrates a basic version of Bintang Anda. This game has been tailored for use with specific communities in East Java, Indonesia. Experience has shown this version of the game to be simple to develop and effective in generating discussion, participation, and learning. Village players using this game found role playing easy, enjoyable, and a good vehicle for discussion of issues relevant to their everyday lives. Through testing it was also found that players tended to de-emphasize 'game' aspects of playing; i.e. competition, strict rules, and winners/losers.

When developing simulation games it is important to 'tune' the game to the particular community where it is played. In other communities, countries, or cultures, role playing may be difficult, the motivational aspects of competition important, or the rules and game board might need to be rigid and explicit. Naturally, the actual messages and role plays must be based directly on specific community realities. The simulation game and its playing process will have to be developed and adjusted accordingly.

The following example presents a slightly more complex version of the game with two possible game boards developed for use with village and sub-district level leaders and concerning Coordination for Healthy Water Supply.

Bintang Anda Example II.

CO-ORDINATION FOR HEALTHY WATER SUPPLY

Game Objective: This game is geared for use by sub-district level officials to improve their abilities in:

- Understanding the situation and condition of village communities they serve;
- Effectively utilizing existing resources;
- Managing collective agency resources for efficient problem intervention;
- Developing integrated, cooperative programs with other agencies.

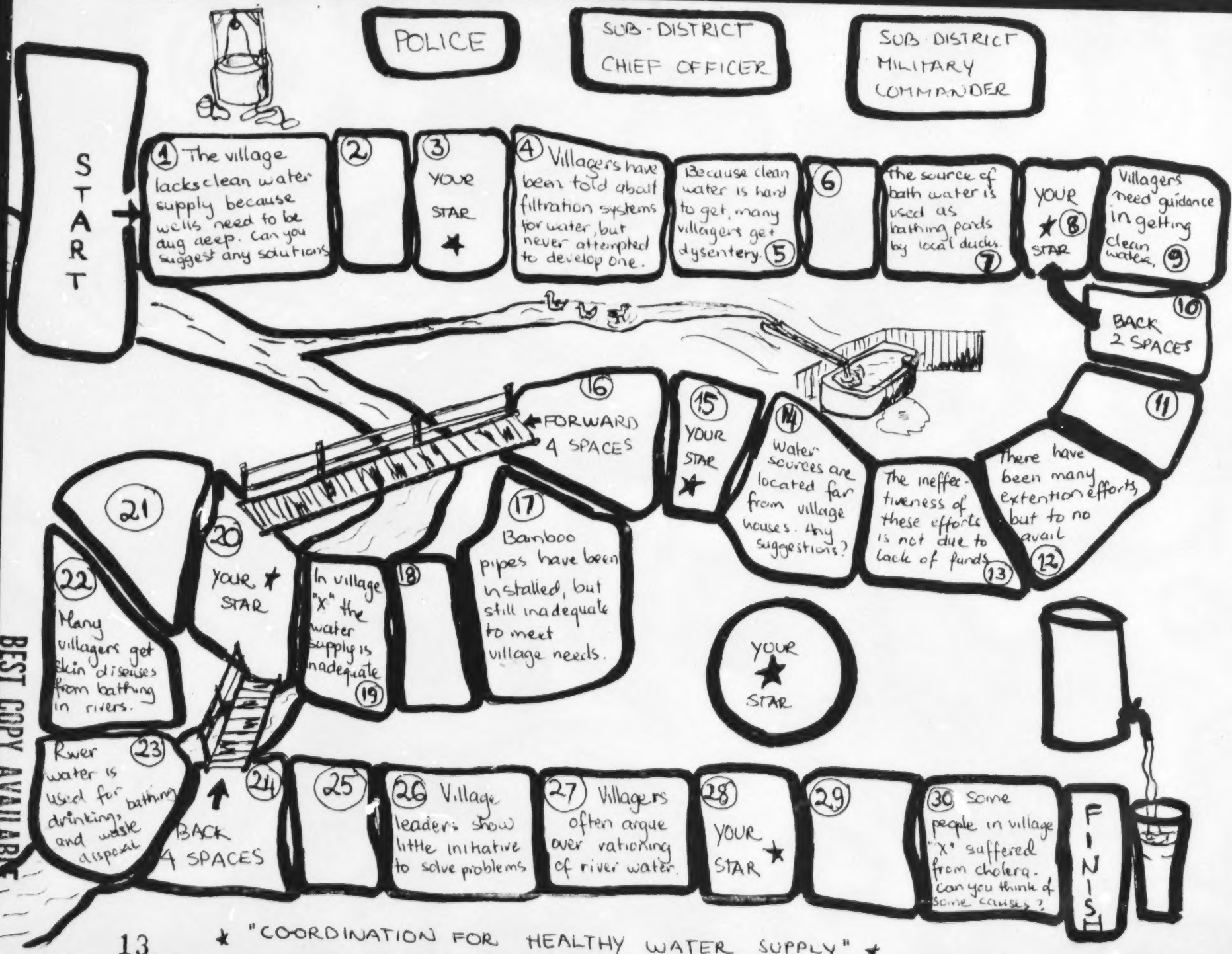
Participants, Materials & Procedure: Same as in Example No. 1 (Healthy Water Supply'). The main difference in this game is its target audience (agency officials) and its utilization focus (training, planning, skill building, and problem solving).

Messages on Bintang Anda Cards: Co-ordination Game

1. Demonstrations of water filtration have been undertaken, but villagers have not established water filtration systems of their own. What should now be done?
2. Various agencies have jointly resolved to work on the water supply problem, but no plan of action has been established. What steps should now be taken?
3. We have approached informal community leaders, but they have shown little interest. Why?
4. Have our approach methods and materials used with community leaders and members been effective? What are they now? And what methods/materials might we use?
5. What efforts have been undertaken to solve the water supply problem? What have the results been?
6. There have been efforts to inform the communities about healthy water habits, but results have been minimal. Why?
7. What are the main health problems caused by the poor water supply?
8. What agencies are currently involved in working on the water supply problem?
9. Reforestation programs have been tried, but with poor results. How might these programs be improved?
10. Home gardens and household tree planting programs have been established, but many of the plants and trees have died. Why?
11. The latrine program has not taken hold in the villages. What problems has it faced?
12. Why do villagers in this area still bathe, draw water, and excrete waste in the same stream? How can we convince them to change this pattern of water use?
13. We pass our instructions on to village leaders so that they can inform the community, but we've noted that their own water use habits remain unchanged. How can we get them to set a better example?
14. Regulations for water utilization have been established but they are not followed by the community. What can be done?
15. How can community participation in water supply programs be improved?
16. How can the health of the community be improved through better water supply? What resources are there for bringing about needed improvements?

Game Features

As can be seen from this example, the game is very simple to play. Play and discussion of the topic blend into one: naturally leading to post-game discussion of possible actions to be taken. Originally the game was much more complex: roles were strictly differentiated with different cards for each; monetary values were assigned to Bintang Anda cards and events (example: "Your


POLICE
SUB-DISTRICT CHIEF OFFICER
SUB-DISTRICT MILITARY COMMANDER
START
1 The village lacks clean water supply because wells need to be aug deep. Can you suggest any solutions
2
3 YOUR STAR
4 Villagers have been told about filtration systems for water, but never attempted to develop one.
Because clean water is hard to get, many villagers get dysentery. 5
6
The source of bath water is used as bathing pools by local ducks. 7
YOUR 8 STAR
Villagers need guidance in getting clean water. 9
10 BACK 2 SPACES
11
There have been many extention efforts but to no avail 12
The ineffectiveness of these efforts is not due to lack of funds 13
14 Water sources are located far from village houses. Any suggestions?
15 YOUR STAR
16 FORWARD 4 SPACES
17 Bamboo pipes have been installed, but still inadequate to meet village needs.
18
In village "X" the water supply is inadequate 19
20 YOUR STAR
21
22 Many villagers get skin diseases from bathing in rivers.
23 River water is used for bathing drinking, and waste disposal
24 BACK 4 SPACES
25
26 Village leaders show little initiative to solve problems
27 Villagers often argue over rationing of river water.
28 YOUR STAR
29
30 Some people in village "X" suffered from cholera. Can you think of some causes?
FINISH
YOUR STAR

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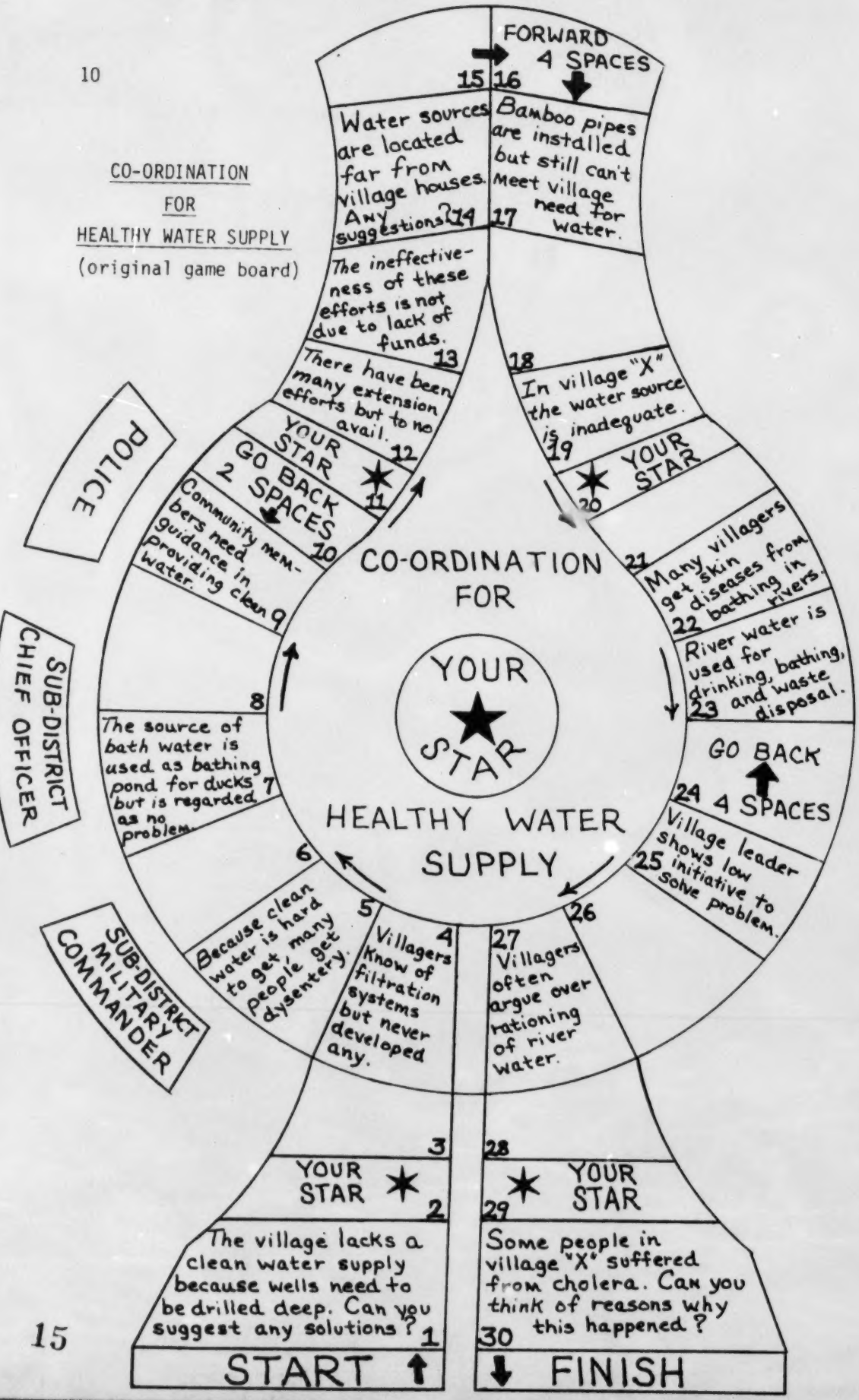
CO-ORDINATION
FOR
HEALTHY WATER SUPPLY
(original game board)


CO-ORDINATION FOR
YOUR STAR
HEALTHY WATER SUPPLY
START
FINISH
1 The village lacks a clean water supply because wells need to be drilled deep. Can you suggest any solutions?
2 YOUR STAR
3
4 Villagers know of filtration systems but never developed any.
5 Because clean water is hard to get many people get dysentery.
6
7 The source of bath water is used as bathing pond for ducks but is regarded as no problem.
8
9 Community members need guidance in providing clean water.
10 GO BACK 2 SPACES
11 YOUR STAR
12 There have been many extension efforts but to no avail.
13 The ineffectiveness of these efforts is not due to lack of funds.
14 Any suggestions?
15
16 FORWARD 4 SPACES
17 Bamboo pipes are installed but still can't meet village need for water.
18
19 In village "X" the water source is inadequate.
20 YOUR STAR
21 Many villagers get skin diseases from bathing in rivers.
22
23 River water is used for drinking, bathing, and waste disposal.
24 GO BACK 4 SPACES
25 Village leader shows low initiative to solve problem.
26
27 Villagers often argue over rationing of river water.
28
29 YOUR STAR
30 Some people in village "X" suffered from cholera. Can you think of reasons why this happened?
POLICE
SUB-DISTRICT CHIEF OFFICER
SUB-DISTRICT MILITARY COMMANDER

child is sick, go to a health clinic and pay rp. 1000"). "Monopoly" money was used as a points system; and each game produced a clear 'winner'.

During game try-outs, players suggested numerous changes for game improvement, most of which have been incorporated into the current game format. Some of the suggested changes were as follows:

- The 'win-lose' format was eliminated: villagers did not like this aspect of competitiveness in their discussions. Evaluation apprehension seemed to lower some members' motivation to participate.
- Role-playing was simplified: the actual playing of the game became more of a format for stimulation of discussion. All players were invited to contribute to the discussion at any point.
- The game board and materials were simplified: the original game involved several types of cards, numerous specific roles, a banker with game money, etc. Development of game materials was difficult and game organization was complex. Just keeping track of all the pieces necessary for play was a task in itself.
- Game boards were varied. With the basic features of the game simplified, it was easy to modify the game board to make it more interesting. Shortcuts were introduced, and groups became involved in decorating their boards to reflect their group identity and the specific topic.

According to the village players, some of the most crucial aspects of the game involved the development of their ability to discuss and analyze problems and situations Villagers became proud of their knowledge and understanding and were less hesitant to confront persons of higher rank and status in pursuing their needs. In one case they even invited the Chief District Officer to join in their discussions.

Villagers also began to show a great deal of creativity in the use of the game; coming up with ideas not foreseen by the game's originators. In one village the discussions were tape recorded. These discussions were then played back as a substitute for the usual background music at community ceremonies and festivals. In another village such tapes were played to inform and entertain people waiting to see doctors at the sub-district clinic. Doctors and nurses immediately noted an increase in questions concerning health and nutrition coming from their patients.

Types of Games Developed

A wide range of games were developed based on the needs and situations in their particular communities. The number of games developed and topics covered depended only on the energy and commitment of the particular field-worker and the amount of support he/she received from the community.

Some of the 'Bintang Anda' games developed include such topics as:

- Family Life Education
- Agricultural Improvement
- Health and Nutrition
- Reforestation
- Gotong Royong (Mutual Assistance)
- Community Education
- Community Welfare
- Religious Teaching
- Children's Health Care

In the area of health, particularly, numerous games were developed including Healthy Water Supply, Nutrition Education, Health Education, Sanitary Housing, and Family Planning, Communicable Diseases, Cholera Prevention, Malaria Control, Tuberculosis Prevention, and Environmental Sanitation. This outpouring of games was largely due to the positive response and support of the District Health Office.

There are many similarities among games and topics used in different villages; each game being tailored to the particular community and its priority concerns, interests, and resources. As can be seen by the examples given in this section, not all games were solely for community members. Games such as Coordination for Healthy Water Supply were developed for use with village and sub-district level leaders in order to improve their overall management and organization skills, as well as to facilitate communication. The following section describes the development of the overall simulation games program and delineates specific activities undertaken to increase the effectiveness of the program, such as training for community facilitators.

THE SIMULATION GAME PROGRAM

The strength of Bintang Anda is that it comprises an integrated program approach. As such, the game is much more than a simple learning material or methodology; it is buttressed by an implementation framework including needs assessment, training, resource mobilization and delivery systems. Much of the success of the game itself rests upon the integrated program for community development of which the game is but a part.

Program Development

In 1975 the National Educational Research and Development Bureau of the Indonesian Ministry of Education and Culture began a search for innovations in educational technology that could be applied to the problems of rural development. The Center for International Education at the University of Massachusetts was invited to help design and run a workshop aimed at the development of alternative learning materials appropriate for rural situations.

Via the workshop a number of prototype materials were developed including Bintang Anda, a simulation game based roughly on the successful game Barrio utilized in nonformal education programs in Bolivia.* Field sites for further testing and development of the game were sought, with a very positive response coming from the Government District Head of Malang, East Java.

The following steps were taken to develop the program:

1. A collaborative program team was set up including staff from the local Teachers Training Institute and District government development personnel. Support for the program was generated through demonstrations of the game, discussions with relevant government personnel, and explanations of the game's possible uses and underlying philosophy. A village within the district, Telogosari, was selected to be the site for pilot testing.
2. Workshops were conducted with local sub-district government officials. The game was demonstrated, its purpose explained, and understanding of potential benefits as well as possible problems was generated through discussion.
3. The project team then conducted workshops with the formal and informal leaders of the pilot site village. Concerns about the program were aired. In this case the village leadership needed to be assured of the educational and developmental purposes of the game, since in this traditional setting such games were often viewed as unwanted opportunities for illegal gambling.
4. Training was conducted for village facilitators. Twenty facilitators, five village leaders, and five district level officials participated in a six day workshop. Training areas included needs assessment, formulation of objectives, selection of topics, and message/content development. The main goal of the workshop was training in the development and use of the game. Besides this, participants received training in various relevant content areas such as health, population education, family planning, nutrition, and agriculture.
5. Finally, a village task force consisting of village leaders and trained facilitators planned efforts for the organization of community learning groups, preparation of materials, and the securing of necessary resources. Many of these people served the task force on a voluntary basis.

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*The workshop, Barrio, and the original draft of Bintang Anda are all described in greater detail in Collaboration for Materials Development by Arlen Etling, Center for International Education, 1977.

Training

In order to make the game program more effective, a training program for village facilitators was developed. Experience had shown that community development efforts tended to be short-lived and have low impact unless supported by trained community workers.

Through discussion, brainstorming, and interviews with local officials, formal and informal community leaders, and community members, a needs assessment was conducted to determine the goals and priorities of the program. The priority goal which emerged was: To train facilitators so that they are able to organize learning groups, facilitate discussion and analysis, and implement learning strategies that increase community participation.

This priority goal was then broken down into a number of training topics:*

- Introduction to the simulation game learning approach for village development;
- Needs assessment and topic identification;
- Game material development;
- Playing the game and facilitating discussion;
- Organizing village learning groups;
- Monitoring group activities;
- Linking available resources and community needs.

Short training modules were developed for each training topic based on pilot activity experience. Since training is a key element in the program, the basic objectives, materials, and activities of each module will be described briefly.

Module I: Introduction to Simulation Games

This module shows participants the basics of simulation games as a method for training adults in awareness building and problem solving. Trainees learn the rationale behind the games approach and analyze the strengths and weaknesses of the method for their particular village situation. Activities in this training include slide tape presentations of the game being played in the village, actual demonstration of the game and its components, group brainstorming on strengths and weaknesses of the game, and individual assessments of applicability to local situations.

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*The training modules presented here are brief outlines of seven Indonesian language training guides developed by the IKIP Malang Simulation Games Team.

Module II: Topic Identification and Needs Assessment

In this module participants are taught techniques of needs assessment and methods for transforming needs into game topics. Trainees are taught to prepare interview and observation guides and then receive live practice in interviewing, observation, and brainstorming techniques of needs assessment. Participants also do fieldwork in the village for this session, including holding interviews and brainstorming sessions with community members. From the results of these sessions they work on identifying topics for games and prioritizing needs. Group work is conducted in breaking topics down into specific areas and messages.

Module III: Playing the Game and Facilitating Discussion

Playing the game and facilitating discussion are conducted as a single activity in Bintang Anda. In this module participants practice taking the various roles of the game and rotate the role of facilitator. Each participant receives feedback on how to facilitate discussions plus strengths and weaknesses of his/her own personal style. Emphasis is placed on facilitator skills of eliciting response and ideas from players. Trainees also learn to take notes of important points arising during the game for use in post-game discussions.

Module IV: Developing Game Materials

In this module participants actually develop a version of the game based on topics identified in Module II. Participants are broken down into small working groups in which they select one game topic. Through discussion they develop messages relating to the topic that will become focal points for discussion during the playing of the game. Once topic, objectives, and messages have been identified, the group creates a game board and all the cards and pieces necessary for play. Results are discussed and compared at the end of the module so that participants can get feedback from others for the improvement of their game.

Module V: Organizing Village Learning Groups

One of the most important tasks facing game facilitators is the organization and motivation of village learning groups. Experience in needs assessment will be used in this module as participants learn how to identify potential learners and gather important information such as places for the game, time

available in the particular community, existing organizations in the village, and learner preferences. This module makes use of the 'critical incident' technique to train participants in solving problems related to organizing and motivating groups. In this module participants are also trained in how to "network" existing social organizations in the community, how to manage and administer the program, and how to mobilize resources for community activities. At the end of this module trainees will have developed a step by step plan for organizing learning groups and motivating learners for the simulation game program.

Sample Critical Incident for Module V: Organizing Learning Groups

> The village of Sidamulya has a population of around 4000, about 50% of whom are illiterate. In three of the six sub-villages, people are reluctant to join learning groups because they are suspicious that the program is aimed at changing their valued traditions. Additionally, there is a rumor that the program is intended to influence them in favor of the ruling government party. Villagers in this area suspect the village head, who they didn't support in the last election and who is a member of the ruling party. Still others in these sub-villages have heard of gambling being associated with simulation games. Government officials from the District do not like the attitudes of these communities, and have tried to force them into the program.
>
> Questions:
>
> 1. Do you agree/disagree with villagers being forced to join the program? Why?

Module VI. Monitoring Program Activities

This module builds on the needs assessment techniques of interviewing, observation, and brainstorming. Participants develop monitoring sheets and lists of the types of data to be collected. Methods for obtaining this data and interpreting it for program improvement are discussed. By the end of the training in this module participants have developed observation and interview guides and have again practiced their skills in interviewing, observation, and brainstorming.

Module VII: Linking Resources and Community Needs

The simulation game program implies follow-up activities for community improvement. Villagers are encouraged to analyze their situations and problems, and to take steps to solve these problems. In this module emphasis is placed on identifying available resources at the village level as well as agencies

that might be able to provide assistance for specific problems. Besides identification of resources, trainees are taught how to communicate with persons and agencies that are seen as resources. Activities in this module include brainstorming in groups to identify resources, critical incident sessions to improve problem-solving skills, and techniques for approaching potential resource persons and agencies.

Sample Critical Incident for Module VII: Linking Resources and Needs

> As a result of adult education programs, many of the people of your village are motivated to learn and to take action to improve their situation. One of the problems they have identified is the need for a health clinic in their village. They have organized a committee for raising funds, but even if they build the facility themselves, they foresee problems in getting a nurse or doctor to stay in their village since it is far from any city or town. Other problems have also arisen. Since many community members have expressed an interest in learning skills like sewing, handicrafts, and food preparation, they have become frustrated since there is no one in the community who can teach them in these skill areas. The village head has said that he can do nothing to help the community with these resource problems, and because of this many members want the village head to be replaced.
>
> Questions
>
> 1. What would you do to overcome these problems? What steps would you take?
> 2. How would you go about obtaining resources to meet community learning needs? What persons and agencies would you involve? How?

Content Modules

Many of the simulation games used concerned specific content areas such as health, nutrition, agriculture, or cooperatives. Wherever possible, resource persons from these technical areas were utilized in training to provide supplemental information in their area of expertise. These informational modules help game facilitators to develop their topics and messages. Additionally, facilitators become acquainted with fieldworkers from various departments who can provide assistance when they implement the simulation game program upon return to their home communities.

PROGRAM ANALYSIS

Bintang Anda caught on rapidly in the rural communities where it was played, showing an ability to membudaya (become a part of local practice/ custom). As villagers adjusted and changed the game and as facilitators introduced new topics it began to spread to other villages as requests came in for assistance in starting similar programs. Ownership of the game was established as community facilitators developed their own versions of the game board and introduced topics relevant to particular communities.

Results at the Community Level

- Community awareness and understanding: through the game villagers were able to share experiences, ideas, information, and to try out possible strategies for solution of common problems and situations confronted in everyday life;
- Cooperation and peer learning: the game elicits cooperation between diverse village groups and focuses attention on common problems and resources. Since literacy is not a pre-requisite for participation, illiterates are not excluded from this educational activity. Villagers learn to learn from each other;
- Introduction of new information: through the game the community is able to assess their information/knowledge needs. New information is introduced in direct relation to discussion, analysis, and problem solving activities, hence assuring the relevance of new learnings.

In many cases the results of the game could be seen in behavioral changes within the community. Group and individual activities such as cash-crop home garden development, improvement of village roads, better community sanitation maintenance, improvement of homes and schools, etc. were seen in the wake of game playing. Most of the activities were short-term and concrete in nature with immediately visible impact. Villagers also began to make more use of existing support structures and resources, as reflected in increased requests for information and assistance from field extension agencies.

Awareness and attitudinal improvements were also noted. In communities where the game was played village leadership noted an increased awareness of duties and responsibilities. Concrete evidence of this was increased payment of taxes and repayment of credits. Most importantly, villagers became able to develop ideas, plans, and programs and present them to village leadership and government officials. As implied in the name Bintang Anda, the community became more aware of how their efforts could bring about change. They began to gain some power over thier fate, or "star".

Program Strengths

- Economy: A major problem facing Indonesia in its rural educational activities is resource scarcity. With an estimated 30 million illiterates scattered across 6000 islands and 60,000 villages it is important to have techniques and materials that are low-cost to develop, use, and reproduce. Bintang Anda makes use of abundant human resources and decreases reliance on scarce items such as books and paper.
- Relevance: Simulation games bring the community together around real issues of everyday life. Bintang Anda helps to bring about changes in awareness and attitude while introducing new information directly related to community needs. Education is made practical.
- Flexibility: Bintang Anda is adaptable to a wide variety of topics and content. Players can develop their own versions of the game board and playing format; and the uses of the game have proved many and varied (e.g. recorded discussions, exchange of materials, etc.).
- Delivery System: The effectiveness of Bintang Anda does not depend upon a network of professional adult educators or fieldworkers. Game facilitators come from the community itself. The game is self-explanatory and can be adapted, used, and produced by community volunteers.
- Educational Decentralization: Simulation games like Bintang Anda decentralize the educational process by developing instructional objectives at the village level based on community problems and needs. The game fits into a development philosophy emphasizing grassroots' programs.
- Cultural Compatability: In Java, communities maintain a close-knit social fabric. "Musyawarah" and "Mufakat" (traditional discussion and conscensus processes) are still strong in the village. Villagers naturally spend time together in groups for social purposes or for playing games such as chess or dominoes. Bintang Anda fits nicely with these existing social practices.
- Conceptual Soundness: Group work helps to promote a process favoring risk-taking, innovation, and change. Discussion and awareness-building group activities also from a solid base for the adoption and integration of new knowledge, information, and technology.

Program Weaknesses

- Social Status Constraints: At the present, village functional structures remain top-down and hierarchical. Extension agency fieldworkers find it hard to change from their didactic instructional methods to a more participatory style. Facilitators drawn from the village and having little formal education may have trouble gaining support from village leadership.
- Cultural and Religious Sanctions: In a few traditional Moslem communities it was difficult to gain acceptance for a game utilizing dice, since this was associated with gambling. However, in other areas this is no problem since even "arisan" groups (traditional lotteries) have begun to use dice to determine winners.

- Facilitator Skills: The main aim of the game is the transfer of knowledge relevant to the needs of the community. In order for this component of the game to be effective, the facilitator is often required to possess knowledge/information about complex subjects such as agriculture, health, nutrition, etc. It is not always possible for facilitators to obtain resource persons/information to assist in developing game content areas responsive to community needs.
- Follow-up: After awareness is built and subject content discussed, the ultimate success of the game depends upon two factors: the facilitators ability to assist groups in problem solving and planning, and support from village leadership insuring availability of resources for implementation of planned activities. Lack of either facilitator skills in assisting group follow-up or lack of concrete political and material support from village leadership will greatly hamper the game's ultimate effectiveness.

Lessons from Experience

The effectiveness of the game program and its potential for replication in other settings will depend on a number of variables. From our experience we suggest that the following issues be examined before the initiation of simulation game programs such as Bintang Anda.

- Official Support and Openness Toward Innovation: Bintang Anda succeeded in Malang District due in large part to the support and initiative of the District Head. In a hierarchical government structure, high level support is essential since lower level personnel are hesitant to deviate from official program lines. Programs in other provinces failed due to lack of this critical support.
- Potential for Inter-Agency Collaboration: Since the ultimate objectives of the simulation game involve integrated programs and support from a wide variety of technical agencies, interagency understanding and assistance is essential. In East Java other agencies such as the Ministry of Health were quick to adopt the game for use in their own field programs.
- Pre-Conceptions about Games: Often officials, village level leadership, and even community members stereotype all game activities as a frivolous waste of time before attempting to understand the simulation game concept. In some places there may even be religious/legal sanctions attached to games. This is an important consideration when planning for efforts to generate support for a games program.
- Socio-Cultural Setting: Simulation games work best when they are able to fit closely with existing social and cultural patterns. Communities having high solidarity, existing groups, social customs favorable to group gatherings and discussions and mutual self-help are much more likely to adopt simulation games with little disruption and inconvenience.

- Village Support: The simulation game concept involves programmatic decentralization, and hence places a burden of support and leadership within the village. Village leadership must understand the value of the program and provide active support throughout implementation. 'Token' participation by formal and informal village leaders may work for a time, but the end goals of the program will be stymied unless they are willing to commit time and resources.
- Technical Support/Training Resources: In this case the District Government worked collaboratively with the staff of the Teacher Training Institute in developing and back-stopping the program. Good resources for materials development, training, and follow-up must be in place for the simulation program to be implemented with any effect.

Conclusion

Current community development strategies emphasize participation, awareness building, dialogue, problem solving and motivation through simple, practical materials and methods. Simulation games such as Bintang Anda, when utilized as part of a broader framework of activities, can help to functionalize these concepts while making efficient use of existing resources.

It is hoped that others involved in community development efforts will be able to build, adapt, and improve upon the experience presented in this technical note when developing their own specific activities suited to the needs of the communities in which they work.

TECHNICAL NOTES OF THE CENTER FOR INTERNATIONAL EDUCATION

1. THE ECUADOR PROJECT: discusses the basic goals, philosophy, and methodology of a rural nonformal education project.
2. CONSCIENTIZACAO AND SIMULATION GAMES: discusses Paulo Freire's educational philosophy and the use of simulation games for consciousness raising.
3. HACIENDA: describes a board game simulating the economic and social realities of the Ecuadorian Sierra.
4. MERCADO: describes a card game which provides fluency practice in basic market mathematics.
5. ASHTON-WARNER LITERACY METHOD: describes a modified version of Sylvia Ashton-Warner's approach to literacy training used in Ecuadorian villages.
6. LETTER DICE: describes simple, participatory, letter fluency games which involve illiterates in a non-threatening approach to literacy.
7. BINGO: describes Bingo-like fluency games for both words and numerical operations.
8. MATH FLUENCY GAMES: describes a variety of simple fluency games which provide practice in basic arithmetic operations.
9. LETTER FLUENCY GAMES: describes a variety of simple fluency games which provide practice in basic literacy skills.
10. TABACUNDO: BATTERY POWERED DIALOGUE: describes the use of a tape recorder for feedback and programming in a rural radio school program.
11. THE FACILITATOR MODEL: describes the facilitator concept for community development in rural Ecuador.
12. PUPPETS AND THE THEATER: describes the use of theater, puppets and music as instruments of literacy and consciousness awareness in a rural community.
13. FOTONOVELA: describes the development and use of the fotonovela as an instrument of literacy and consciousness awareness.
14. THE EDUCATION GAME: describes a simulation/board game that illustrates the inequities of many educational systems.
15. THE FUN BUS: describes an NFE project in Massachusetts that used music, puppetry and drama to involve local people in workshops on town issues.
16. FIELD TRAINING THROUGH CASE STUDIES: describes the production of actual village case studies as a training method for community development workers in Indonesia.
17. PARTICIPATORY COMMUNICATION IN NONFORMAL EDUCATION: describes the use of simple processing techniques for information sharing, formative evaluation and staff communication.
18. BINTANG ANDA: A GAME PROCESS FOR COMMUNITY DEVELOPMENT: describes an integrated community development approach based on the use of simulation games.
19. USING CONSULTANTS FOR MATERIALS DEVELOPMENT: describes an approach to selecting and utilizing short-term consultants for materials development.

Technical Notes are available at a cost of $1.00 plus postage from: Publications Assistant, 285 Hills House South, University of Massachusetts, Amherst, MA 01003.